

KALACHEVA, L., starshiy nauchnyy sotrudnik.

Far East should produce own vegetables. Nauka i pered. op. v sel'-
khoz. 8 no.6:34-36 Je '58. (MIRA 1186)

1. Dal'nevostochnyy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.

(Soviet Far East--Vegetable gardening)

KALACHEVA, L.L., inzh.

Evaluation of new mining systems in relation to their safety.

Izv.vys.ucheb.zav.; gor.shur. no.2:10-16 '59.

(MIRA 13:4)

1. Tomskiy ordena Trudovogo Krasnogo Znaneni politekhnicheskii
institut imeni S.M.Kirova. Rekomendovana kafedroy tekhniki
bezopasnosti i rudnichnoy ventilyatsii.

(Mining engineering--Safety measures)

KALACHEVA, N. F.

"Serological Relations Between Tularemia Strains and Differences Between Tularemia and Brucellosis Bacteria; Literature Reference," Trudy Nauchno-issledovatel'skogo Instituta Mikrobiologii i Epidemiologii Yugo-Vostoka SSSR, Saratov, Vol 1, 1951, pp 115-119.

KALACHEVA, N. F.

YUGOSLAVIA/Microbiology - Medical and Veterinary F-6
Microbiology

Abs Jour : Ref Zhur-Biologiya, No 1, 1957, 643
Author : N. K. Vereninova and N. F. Kalacheva
Inst :
Title : Raising of the Effectiveness of
Vaccination in Tularemia and Plague
Orig Pub : V ab.; zhivye vaktsiny, M, 1956, 57-64
Abstract : In order to raise the immunizing proper-
ties of vaccines of tularemia and plague
strains a testicular extract (TE) was
utilized. The addition of TE to live
vaccine increased the intensity of the
immunity and activated the development
of protective factors, increasing the
immunizing effect of even weak

Card 1/2

• YUGOSLAVIA/Microbiology - Medical and Veterinary F-6
Microbiology

Abs Jour : Ref Zhur-Biologiya, No 1, 1957, 643

Abstract : immunogenic strains. In the presence of
TE the process of distribution of the
microorganisms Pasteurella pestis and
Bacterium tularensis in the organism
takes place with greater intensity.

Card 2/2

KALACHEVA, N.F.

Experimental studies on a compound vaccine against plague and tularemia.
Zhur. mikrobiol. epid. i immun. 29 no.9:78-83 S '58 (MIRA 11:10)

1. Iz tulyaremynogo otdela Saratovskogo nauchno-issledovatel'skogo
instituta mikrobiologii i epidemiologii Yugo-Vostoka SSSR.

(PLAGUE, immunology,

polyvaccine against plague and tularemia.(Rus)).

(TULAREMIA, immunology,

same (Rus))

(VACCINES AND VACCINATION,

same (Rus))

KOROBKOVA, Ye.I.; VERENINOVA, N.K.; KALACHEVA, N.F.; PETROVA, B.Yu.; KRATNOVA,
A.N.

Studies on a combined vaccine prepared from killed *Vibrio comma* and
Pasteurella pestis. Zhur. mikrobiol. epid. i immun. 29 no.11:38-45
N '58.
(MIRA 12:1)

1. Iz Instituta mikrobiologii i epidemiologii Yugo-Vostoka SSSR (Mikrob).
(CHOLERA, immunol.
vaccine from killed *Vibrio comma* & *Pasteurella pestis* (Rus))
(PLAGUE, immunol.
same)

VERENINOVA, N.K.; SMIRNOVA, Ye.I.; KALACHEVA, N.F.; KUZNETSOVA, N.I.; KARASEVA,
Z.N.

Effectiveness of a compound living vaccine against plague, tularemia,
brucellosis, and anthrax. Report No.1: Compatibility of living vaccines
(plague, tularemia, brucellosis and anthrax) under experimental condi-
tions in guinea pigs. Zhur. mikrobiol. epid. i immun. 29 no.11:45-52
N '58. (MIRA 12:1)

1. Iz Instituta mikrobiologii i epidemiologii Yugo-Vostoka SSSR (Mikrob).
(PLAGUE, immunol.
live plague-tularemia-brucellosis-anthrax polyvaccine, eff.
in guinea pigs (Rus))
(TULAREMIA, immunol.
same)

KALACHEVA, N.P.

Leukocytic reaction in mice immunized by a combined live vaccine against plague and tularemia, author's abstract. Zhur.mikrobiol. epid. i imun. 30 no.1:43-44 Ja '58. (MIRA 12:3)

1. Iz Nauchno-issledovatel'skogo instituta mikrobiologii i epidemiologii Yugo-Vostoka SSSR ("Mikrob").

(LEUKOCYTE COUNT,

eff. of plague-tularemia live vaccine in mice
(Rus))

(PLAGUE, immunol.

same)

(TULAREMIA, immunol.

same))

VERENINOVA, N.K.; SMIRNOVA, Ye.I.; KALACHEVA, N.F.; KUZNETSOVA, N.I.;
MEL'NIKOVA, A.F.; DOBROTSEVETOVA, T.Ya.

Effectiveness of complex vaccination with live vaccines against plague, tularemia, brucellosis, and anthrax. Report No.2: Intensity of immunity in complex vaccination of guinea pigs against intratracheal infection. Zhur.mikrobiol.,epid.i immun. 30 no.11:19-24 N '59. (MIRA 13:3)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta mikrobiologii i epidemiologii yugo-vostoka SSSR.

(PLAGUE, immunol.)
(TULAREMIA, immunol.)
(BRUCELLOSIS immunol.)
(ANTHRAX immunol.)
(VACCINATION)

KALACHEVA, N.F.

Vaccination reaction to a single administration of two living vaccines plague and tularemia. Zhur. mikrobiol. epid. i immun. 31 no. 4:64-66 Ap '60. (MIRA 13:10)

1. Iz Nauchno-issledovatel'skogo instituta mikrobiologii i epidemiologii Yugo-Vostoka SSR ("Mikrob").
(PLAGUE) (TULAREMIA)

VERENINOVA, N.K.; KALACHEVA, N.F.; TSAREVA, S.A.

Acceleration of the diagnosis of tularemia. Report No.1:
Detection of tularemia in dead rodents. Zhur. mikrobiol.,
epid. i immun. 33 no.7:107-110 JI '62. (MIRA 17:1)

1. Iz Instituta mikrobiologii i epidemiologii Yugo-Vostoka
SSSR "Mikrob".

SMEKHOV, Ye. M., prof.; BULACH, M.Kh., kand. geol.-mineral. nauk;
ROMM, Ye.S.; GORYUNOV, I.I.; GMID, L.P.; GROMOV, V.K.;
DOROFYEVA, T.V.; KNORING, L.D.; KALACHEVA, V.M.; TATARINOV,
I.V.; KLEYNOSOV, Yu.F.; KAPLAN, M.Ye.; ZVONITSKAYA, I.V.;
MAZURKEVICH, Z.I.; DRYABINA, N.N.; RUSAKOVA, L.Ya., vedushchiy
red.; BARANOVA, L.G., tekhn. red.

[Methodological text on the study of the fracturing of rocks
and fractured oil and gas reservoirs]. Metodicheskoe posobie
po izucheniiu treshchinovatosti gornyykh porod i treshchinnykh
kollektorov nefti i gaza. Leningrad, Gostoptekhizdat, 1962.
76 p. (Leningrad. Vsesoyuznyi neftianoi nauchno-issledovatel'-
skii geologorazvedochnyi institut. Trudy, no.201).

(MIRA 16:4)

(Joints(Geology)) (Oil sands)

SMEKHOV, Ye.M.; GMID, L.P.; ROMASHOVA, M.G.; ROMM, Ye.S.; KALACHEVA, V.N.;
DOROFYEVA, T.V.; GROMOV, V.K.

Method for studying fractured rocks and their reservoir properties. Geol.nefti 2 no.3:37-45 Mr '58. (MIRA 12:6)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologo-razvedochnyy institut.

(Rocks--Permeability)

KALACHEVA, V.N.

Types of fractured reservoir rocks in the carbonate sediments
of the Lower Cambrian and their distribution in the territory
of the Irkutsk Amphitheater. Trudy VNIGRI no. 228:7-17 '64
(MIRA 17:8)

KALACHEVA, V.N.

Fractured reservoirs of the lower Cambrian in the Irkutsk
amphitheater. Trudy VNIGRI no.165:129-170 '61. (MIRA 14:8)
(Irkutsk Province--Oil sands--Permeability)
(Joints (Geology))

KALACHEVA, V.N.

Effect of some lithological factors on reservoir properties
of lower Cambrian rocks in the Irkutsk amphitheater. Trudy
VNIGRI no.190:144-149 '62. (MIRA 16:1)
(Irkutsk Province—Oil sands—Permeability)

GMD, L.P.; KALACHEVA, V.N.

Lithologic factors and their effect on reservoir properties of Lower
Cambrian carbonate rocks in the Irkutsk amphitheater. Trudy VNIGRI
no.193:102-122 '62. (MIRA 15:12)
(Irkutsk Province---Rocks, Carbonate)

KALACHEVA, V.N.

Some data on fractured rocks of the Lower Cambrian in the
Irkutsk amphitheater and their reservoir properties. Trudy
VNIGRI no.121:67-114 '58. (MIRA 16:11)

SMEKHOV, Ye.M., prof., doktor geol.-mineral. nauk; BULACH, M.Kh.;
ROMM, Ye.S.; POZINENKO, B.V.; GORYUNOV, I.I.; KNORING, L.D.;
GMID, L.P.; GROMOV, V.K.; KUZNETSOV, Yu.I.; DOROFEEVA, T.V.;
KALACHEVA, V.N.; KLEYNOSOV, Yu.F.; TATARINOV, I.V.;
~~IONINA, I.N.~~, vedushchiy red.; YASHCHURZHINSKAYA, A.B.,
tekhn. red.

[Combined investigations of fractured reservoirs and
experience in estimating the petroleum reserves contained
therein.] Kompleksnye issledovaniya treschimnykh kollektorov
i opyt podscheta v nikh zapasov nefi. Leningrad, Gostop-
tekhnizdat, 1963. 198 p. (Leningrad. Vsesoiuznyi neftianoi-
nauchno-issledovatel'skii geologorazvedochnyi institut.
Trudy, no.214) (MIRA 17:1)

KALACHEVA, V.N.; KNORING, L.D.

Fractured oil and gas reservoirs of the prospective horizons of the Lower Cambrian of the Irkutsk amphitheater. Biul.nauch.-tekh.inform VIMS no.1:3-7 '63. (MIRA 18:2)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut, Leningrad.

KALACHEVA, V. YA. Cand Biol Sci -- (diss) "The effect of radiation ^{of certain} on ~~several~~
processes of metabolism of ~~some~~ vegetable organisms" Mos, 1957. 16 pp 20 cm.
(Institute of Biochem in A. N. Bakh, Acad Sci USSR), 110 copies
(KL, 20-57, 82)

18

KALACHEVA, V. YA.

SISAKYAN, N.M.; KALACHEVA, V.Ya.

Effect of X-irradiation on protein synthesis in rye sprouts [with summary in English]. Biofizika 2 no.4:480-482 '57. (MLRA 10:9)

1. Institut biokhimi im. A.N.Bakha Akademii nauk SSSR, Moskva
(X RAYS—PHYSIOLOGICAL EFFECT)
(RYE) (PROTEINS)

KALACHEVA, V. YA.

"The Influence of Radiation on Processes of Oxidative Phosphorylation
in the Mitochondria of Plants."

report submitted for the First Conference on the problems of Cyto and
Histochemistry, Moscow, 19-21 Dec 1960.

Laboratory of Enzymology of the Institute of Biochemistry Ioni A. N. Bakh,
Academy of Sciences USSR, Moscow.

KALACHEVA, V. YA., (USSR)

Effects of Radiation on Oxidative Phosphorylation
Processes in the Mitochondria of Plants."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

SISAKYAN, N.M.; KALACHEVA, V.Ya.

Action of X-ray irradiation on oxidizing phosphorylation in plant mitochondria. *Biokhimiia* 26 no.5:877-881 S-0 '61. (MIRA 14:12)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R., Moscow.

(PHOSPHORYLATION) (MITOCHONDRIA)
(PLANTS, EFFECT OF RADIOACTIVITY ON)

KALACHEVA, V. YH

(4)

Effect of Radiation on Oxidative Phosphorylation in the Mitochondria of Plants

V. Ya. Kalachera

Processes of oxidative phosphorylation suffered remarkably little damage when plants were irradiated. When mitochondria were irradiated *in vivo*, changes in oxidative phosphorylation were seen immediately after an X-ray dose of 3000 r. The phosphorylating system proved more sensitive than the oxidation system. The high sensitivity of the processes of oxidative phosphorylation to the action of radiation was seen only when mitochondria were irradiated *in vivo*. The oxidative phosphorylation of isolated mitochondria proved more resistant to radiation action and even with a radiation dose of 10000 r there were no appreciable changes in the disappearance of phosphorus or in oxygen absorption. The rôle of vitamin K and cytochrome c in the mechanism of radiation damage to oxidative phosphorylation in plant mitochondria was investigated. Points connected with the dissimilar effects of radiation on processes of oxidative phosphorylation of plant mitochondria *in vivo* and *in vitro* are discussed.

Institute of Biological Chemistry, USSR Academy of Sciences, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

KALACHEVA, V.Ya.; SISAKYAN, N.M., akademik

Efficiency of oxidation phosphorylation by plant mitochondria.
Dokl. AN SSSR 154 no.5:1198-1201 F'64. (MIRA 17:2)

1. Institut biokhimi im. A.N. Bakha AN SSSR.

KALACHEVA, V.Ya.; SISAKYAN, N.M.

Uncoupling of oxidation and phosphorylation in mitochondria of
green plants following X-ray irradiation. Biokhimiia 30 no.4:
858-863 J1-Ag '65. (MIRA 18:8)

1. Institut biokhimi i imeni A.N. Bakha AN SSSR, Moskva.

KALACHEVA, Ye.

It is better to see for yourself.... Okhr. truda i spets.
strakh. 4 no.6:26-27 Ia '61. (MIRA 14:7)

1. Predsedatel' Yaltinskogo gorkoma profsoyuza meditsinskikh
rabotnikov.

(Yalta--Hospitals--Staff)

L 29299-66 EWT(m)/EWP(t)/ETI JF(c) JD/JG
ACC NR AP6012453 SOURCE CODE: UR/0181/66/003/004/1004/1007

AUTHORS: Yefimova, A. M.; Kalacheva, Ye. I. 43
13

ORG: Moscow Forestry Engineering Institute (Moskovskiy lesotekhnicheskiy institut)

TITLE: Dynamic magnetic properties of certain ferrite-garnets at low temperatures

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1004-1007

TOPIC TAGS: ferrite, hysteresis loop, yttrium compound, lutetium compound, magnetic viscosity, electric property, magnetic coercive force, temperature dependence

ABSTRACT: The authors investigated the dynamic hysteresis loop for low-resistance yttrium and lutetium iron garnets, and high resistance yttrium and ytterbium iron garnets, in the temperature range from 78 to 273K. The static magnetic properties, the magnetic viscosity, and the electric properties of these garnets were previously investigated by one of the authors (Yefimov Abstract of Candidate's Dissertation MGU, 1962). The dynamic hysteresis loop was displayed on an oscilloscope screen at a frequency of 50 cps, using a type Y-542 ferrometer. Plots are presented of the temperature dependence of the coercive force and oscillograms of

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L 29299-66

ACC NR. AP6012453

the hysteresis loops are given for the limit cycle of YIG at different temperatures. For the low resistance iron garnets, a maximum of coercive force was observed at 127K both for the limiting cycles and for the partial hysteresis cycles. Below 127K instabilities of the reversal of magnetization appear on the hysteresis loop. With further decrease in temperature, the degree of squareness of the hysteresis loop increases. The perminvar effect appears at temperatures below approximately 140K. In the case of high resistance garnets, the coercive force increases slightly with decreasing temperature from 273 to 78K. Neither unstable reversal of magnetization nor the perminvar effect are observed. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 12Jun65/ ORIG REF: 005/ OTH REF: 002

Card

2/2 BK

KALACHEVA, Ye. M.

Dissertation: "The Problem of the Method of Applying Antibiotics in the Treatment of Open Wounds." Cand Med Sci, Moscow Medical Stomatological Inst, Ministry of Health RSFSR, Moscow, 21 Jun 54. (Meditsinskiy Rabotnik, Moscow, 4 Jun 54)

SO: SUM 318, 23 Dec. 1954

KALACHEVSKIY, N.S.

Packaging of firebricks. TSement 29 no.3:21 My-Je '63.
(MIRA 17:1)

1. Gosudarstvennyy soyuznyy stroitel'no-montazhnyy trest
ognevoy teplotekhniki.

Amstov /
GRIGOROVICH, I.; STUKOLKIN, N.; KALACHIK, A.; KOL'BAYEV, Kh., inzh.

Road systems of the Union Republics (White Russia, Estonia, and Kirgizistan). Avt.dor. 20 no.11(181):9-14 N '57. (MIRA 10:12)

1. Nachal'nik Gushosdora pri Sovete Ministrov BSSR (for Grigorovich).
(White Russia--Roads)
(Estonia--Roads)
(Kirgizistan--Roads)

KALACHIK, A., inzh.

The best road section in Estonia. Avt. dor. 23 no.5:6 My'60. (MIRA 13:10)
(Estonia--Roads--Maintenance and repair)

KALACHIKHIN, A.F., inzh.

Calculating high-voltage capacitor-type lead-ins. Vest. elektro-
prom. 31 no.5:66-69 My '60. (MIRA 13:8)
(Electric conductors)

S/196/61/000/011/031/042
E194/E155

AUTHOR: Kalachikhin, A.F.

TITLE: An investigation of heating of oil-filled capacitor bushings

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no.11, 1961, 39-40, abstract IJI 287. (Vestn. elektroprom-sti, no.6, 1961, 36-41)

TEXT: A full-scale model of a 220 kV bushing type МТΠ (MTP) was investigated at frequencies of 600-1000 kc/s and three values of steady-state temperature. The results indicate that within these limits the capacitance and $\tan \delta$ values of the bushing are practically independent of the frequency. Twelve thermal conditions were investigated on the model and it was found that oil is the important factor that governs the temperature distribution in the bushings. The bushing construction should provide for complete circulation to equalise the temperature of the whole volume of the frame. This oil circulation ensures good cooling of the frame in a radial direction at both sides of the

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An investigation of heating of ...

S/196/61/000/011/031/042
E194/E155

centre, and considerably reduces the maximum temperature compared with the case when the heat flow is only towards the covers. Tests show that in oil-filled 220 kV bushings with full circulation of the oil the temperature does not rise above the values permitted according to ГОСТ 8024-56 (GOST 8024-56) even under prolonged current and voltage overload.
4 illustrations. 3 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

KALACHIKHIN, A.F., inzh.

Heat transfer of ribbed porcelain covers. Vest. elektroprom. 33 no.8:

31-34 Ag '62.

(MIRA 15:7)

(Heat-- transmission)

(Electric power distribution--Equipment and supplies)

KALACHIKHIN, A.F., kand. tekhn. nauk

Calculation of the thermal stability of an oil-filled condenser-type leadin. Elektrotehnika 36 no.2:35-37 F '65.

(MIRA 18:4)

KALACHIKHIN, A.N., kand. tekhn. nauk (Moskva)

Calculation of the stress of an electrical field in a cylindrical
condenscr. Elektrichestvo no. 5:87-88 Ny '65.

(MIRA 1805)

SINYAVSKIY, Viktor Naumovich; KOZHUKHOV, V.K., retsenzent;
KALACHIKHIN, A.F., red.

[Design, construction, and tests of high-voltage insulators]
Raschet, konstruirovaniye i ispytaniya izoliatorov vysokogo
napriazheniia. Moskva, Energiia, 1965. 166 p.

(MIRA 19:1)

1. Nachal'nik otdela vysokikh napriazheniy Vsesoyuznogo elektro-
tekhnicheskogo instituta (for Kozhukhov).

SHEKHTMAN, Khaim Yankelevich, kand. ekonom. nauk; KALACHIKHIN, I.F.,
red.; GOLUBKOVA, L.A., tekhn. red.

[How to reduce the cost of grain processing] Kak snizit' zatraty
na obrabotku zerna. Moskva, Zagotizdat, 1961. 48 p.

(MIRA 14:11)

(Grain elevators)

USTINOV, Konstantin Ivanovich; KALACHIKHIN, I.F., red.; SAVEL'YEVA,
A., tekhn. red.

[Receiving wool from collective and state farms] Pricem
shersti ot kolkhozov i sovkhozov. Moskva, Zagotizdat,
1962. 86 p. (MIRA 16:8)

(Wool)

SOV/86-58-11-36/37

AUTHOR: Kalachikhin, M. S., Major of Technical Service

TITLE: How to Determine the Amount of Sparking of Brushes in Electric Motors
(Kak opredelit' stepen' iskreniya shchetok elektromotora)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 11, p 91 (USSR)

ABSTRACT: Radio interference is caused sometimes by defective electric motors, that is, by excessive sparking of brushes. To prevent this, the author suggests that the amount of allowable sparking of brushes, particularly in enclosed electric motors, should be determined with the aid of electronic oscillographs. This method has been used with good results during maintenance work in the author's unit. Two diagrams.

Card 1/1

KALACHIKOV, O.T.

Influence of boron and manganese on the dynamics of mobile forms of nitrogen and phosphorus and on the yields of farm crops. *Visnyk Akad. Nauk Ukr.R.S.R.* 22, No.3, 41-8 '50. (MIRA 4:2)
(CA 47 no.22:12722 '53)

DUKA, Stepan Kharitonovich, akademik; KALACHIKOV, O.T., dotsent, kand.
sel'skokhoz.nauk, glavnyy red.

[Fruit and berry growing in the Ukraine during 1959-1965]
Sadivnytstvo ta ishidnytstvo na Ukraini v 1959-1965 rokakh.
Kyiv, 1959. 43 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh snan' Ukrain's'koi RSR. Ser.6, no.15)

(MIRA 13:1)

1. Ukrain's'kaya Akademiya sel'skokhozyaystvennykh nauk (UASGN)
(for Duka).

(Ukraine--Fruit culture)

DEMIDYUK, Fedor Grigor'yevich [Demidyuk, F.H.]; KALACHIKOV, O.T. [Kalachykov, O.T.], kand. sel'skokhoz. nauk, otv. red.; GURENKO, V.A. [Hurenko, V.A.], red.; MATVIICHUK, O.A., tekhn. red.

[Let's carry out the decisions of the January 1961 plenary sessions of the Central Committees of the CPSU and the Communist Party of the Ukraine in an exemplary fashion] Zrazkovo vykonaiemo rishennia sichnevnykh Plenumiv TsK KPRS i TsK KP Ukrainy 1961 r. Kyiv, 1961. 43 p. (Tovarystvo' dlia poshyrennia politychnykh i naukovykh znan' Ukrain's'koi RSR. Ser. 5, no.5) (MIRA 14:8)
(Ukraine--Agriculture)

SOV/136-59-4-15/24

AUTHORS: Piotrovskiy, V.K., Odegov, Ye.V. and Kalachikova, N.V.

TITLE: Hearth Blocks in Electric Furnaces with a Steel Core for Copper Melting (Podovyye kamni v elektropetchakh so stal'nym serdechnikom dlya plavki medi)

PERIODICAL: Tsvetnyye metally, 1959, Nr 4, pp 74-78 (USSR)

ABSTRACT: The authors discuss the advantages of the "Skometa" type copper-melting furnace (Fig 1) in which the core-containing hearth block is not in direct contact with the metal bath (Fig 2). The Elektropetch' trest (trust) recently designed a 15-tonne furnace of this type (OKB-303) with a steel core and six inductors. An experimental 1/8-scale furnace was built to provide experience in the USSR of this type and design data. The authors describe this work in which three types of hearth block were tested. The first was made of rammed siliceous paste with manual tamping within the furnace; the second consisted of specially moulded and fired artificial-corundum blocks; moulded but unfired fireclay or electrocorundum-base materials were used in the third. The details of materials and methods are

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SOV/136-59-4-15/24

Hearth Blocks in Electric Furnaces with a Steel Core for Copper Melting

tabulated. Preliminary tests showed the first two types to be unsatisfactory, the fireclay variant of the third type giving the best results. Improved production methods were developed: a semi-acid high-alumina fireclay with quartz, tamped pneumatically into special moulds (Fig 3) gave blocks with a life of 2.5 months. The furnace starting-procedure was designed to avoid the formation of air pockets in the block channels. The authors stress the importance of avoiding copper-oxide attack on the block and recommend that the block casing should be attached, without intermediate flanges, to the furnace casing. N.A. Finogenova and E.O. Shternbek of the Noril'skiy kombinat (Noril'sk Combine) participated in the work. There are 4 figures and 1 table.

ASSOCIATION: Noril'skiy kombinat (Noril'sk Combine)

Card 2/2

L 01309-67 EWT(1) GW

ACC NR: AT6013749

SOURCE CODE: UR/2789/65/000/067/0059/0061

AUTHOR: Kalachinskiy, S. F.

ORG: none

TITLE: Automatic recording of resistance thermometer readings

SOURCE: Tsentral'naya aerologicheskaya observatoriya, no. 67, 1965. Metody i rezul'taty aerologicheskikh nablyudeni (Methods and results of aerological observations), 59-61

TOPIC TAGS: resistance thermometer, aerologic instrument, automation

ABSTRACT: Two circuits — with an unbalanced bridge and with a balanced bridge — are considered which are intended for automatic measurement and recording of temperature, with an accuracy of 0.1C; the circuits are based on commercial devices and components. The temperature recording range is narrowed down to 10C, and a range switching is used. The first transistorized unbalanced-bridge circuit records the temperature by means of an EPP-09 electronic potentiometer. Its supply voltage is stabilized within 0.1% for $\pm 10\%$ voltage variation and $-10+40C$ temperature variation. The second balanced-bridge circuit is based on an EPM-09 electronic recorder; it is supplied by a nonstabilized 1-1.5-v source. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 13,09/ SUBM DATE: none / ORIG REF: 003

Card 1/1 *ldh*

27
B+1

KALACHNIKOV, A., podpolkovnik

Loyal to the oath. Voen. znan. 41 no.2:14-15 F '65.

(MIRA 18:3)

KALACHNIKOV, Arseniy

Heroism of millions. Voen.znan. 37 no.6:7-8 Je '61. (MIRA 14:6)
(World War, 1939-1945)

CHEGODAR', P., polkovnik; KALACHNIKOV, A., podpolkovnik

Let's steadfastly carry out the decisions of the plenary session
of the Central Committee of the CPSU of October 1957. Komm.Voeruzh.
Sil 1 no.2:35-41 O '60. (MIRA 14:8)
(Russia--Army--Political activity)

KALACHNIKOV, Arseniy Vital'yevich, podpolkovnik; MURAV'YEV, A.,
polkovnik, red.; MUKHANOVA, M.D., tekhn. red.

[Honesty of a soldier] Chestnost' soldata. Moskva, Voenizdat,
1962. 79 p. (MIRA 16:1)
(Russia--Armed forces--Military life)

KALACHNIKOV, A., podpolkovnik

Love for military affairs. Voenn. znan. 40 no.8:5-7 Ag '64.
(MIRA 17:11)

PROCESSES AND PROPERTIES INDEX

KALACHNIKOV, A. I.

50. PROPOSED METHOD OF LOWERING STORAGE MATERIAL DOWN SHAFT.
Kalatchnikov, A. I. (Ugol (Coal), Mar. 1949, 10-11).

Delivery by pipes has the following disadvantages:- (1) size segregation, and hence blockage of the pipes, is encouraged; (2) short life of pipes; (3) repairs of the pipe line interfere with normal winding. On the other hand, it is considered possible with rational organisation to use the main winding installation for the lowering of stowage. Lowering by tube and cages is more practical than by skips, which require special discharge arrangements underground. The use of electrical dynamic braking makes it possible to avoid undue wear and tear on the brakes. Such a system is in operation at the Stalin mine.

METALLURGICAL LITERATURE CLASSIFICATION

KTOHИ BOMЛOУ

BOMЛOУ OHO OHO OHO

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KALACHNIKOV, A.Ya.; MASHKEVICH, K.S.

New V1aP-6 type high-voltage panelboards for coal mines. Ugol' 29
no.5:35-37 My '54. (MIRA 7:6)

1. Dneprogiprosnakht. (Electricity in mining) (Electric switchgear)

KALACHNIKOV, A.Ya., inzh.; KUKHARENKO, P.I., inzh.; KUKHAREV, V.N., inzh.

Mobile air conditioners for deep mines; response to N.V.Poliakov and N.N.Khokhotva's article "Results of the experimental operation of air conditioners for air cooling in longwalls." Ugol' 36 no.4: 58-59 Ap '61. (MIRA 14:5)

1. Dneprogiproshakht.

(Coal mines and mining--Air conditioning)
(Poliakov, N.V.) (Khokhotva, N.N.)

KALASHNIKOV, A. Ya.; PESHENKIN, Ye. V.

Use of electric power in coal mines of the Donets Basin central
region. Ugl' 40 no. 11:9-10 '65. (MIRA 18:11)

1. Dnepropetrovskiy gosudarstvennyy institut po proyektirovaniyu
shakhtnykh ustanovok.

KALACHNIKOV, A.Ya.; RAYKHEL', B.L.

Conference of economists of "Dneprogiproshakhta" design
institutes. Ugol' Ukr. 10 no. 1:56 Ja '66. (MIRA 18:12)

САДАШНИКО, Г.

Gardening

Collective garden v pom. profaktivu 13, No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

KALASHNIKOV, V. A.

Dissertation: "Investigation of the Resistance to Wear of Steel Members Cold-Worked by the Rolling Method." Cand Tech Sci, Ural Polytechnic Inst, Sverdlovsk, 1953.
Referativnyy Zhurnal--Mekhanika, Moscow, May 54.

SO: SUM 284, 26 Nov 1954

KALACHNIKOV, V.N. and G.M. KOTSIUMANOV

Kontrol' v mekhanicheskikh tsekhakh. rukovodstvo dlia tsekhovykh kontrolerov.
Moskva, Mashgiz, 1948. 210 p. illus

Inspection in machine shops

Machine-shop inspector's manual

DLC: TJ1167. K25

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of
Congress, 1953.

SHABASHOV, S.P., kandidat tekhnicheskikh nauk, redaktor; KALAGHNIKOV, V.N., retsenzent; KOROLEV, G.G., retsenzent; BARANOV, Kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A., tekhnicheskii redaktor.

[Production and use of cutting tools; practice of Ural plants]
Proizvodstvo i eksploatatsia instrumenta; opyt ural'skikh zavodov. Moskva, Gos. nauchno-tekhn. izd-vo Mashinostroit. lit-ry.
No. 2. 1950. 285 p. [Photostat] (MLRA 8:2)
(Cutting tools)

KALACHNIKOV, V.N., dots.

Determining roller pressure in knurling mining equipment parts
to increase their wear resistance. Izv.vys.ucheb.zav.; gor.zhur.
no.4:67-75 '58. (MIRA 11:11)

1. Sverdlovskiy gornyy inatitut.
(Mining machinery)

(Steel-Cold working)

KALACHNIKOV, V.N., kand.tekhn.nauk

Increasing the durability of mining machinery by rolling. Izv.vys.
ucheb.zav.; gor.zhur. no.6:78-87 ' 58. (MIRA 12:1)

1. Sverdlovskiy gornyy institut.
(Mining machinery) (Steel--Cold working)

PROSKURYAKOV, Yuriy Georgiyevich; KALACHNIKOV, V.N., kand. tekhn. nauk,
red.; YERMAKOV, N.P., tekhn. red.

[Burnishing holes] Dornovanie otverstii. Moskva, Gos. nauchno-
tekhn. izd-vo mashinostroit. lit-ry, 1961. 191 p. (MIRA 14:10)
(Metals--Finishing)

VOZNESENSKIY, Nikolay Aleksandrovich ; KALACHOV, V.P., retsenzent;
SOROKA, M.S., redaktor; ZALOGIN, N.S., redaktor; LYKHOTA, M.A.
tekhnicheskiy redaktor.

[Booklet on safety measures for oilers of machinery] Pamiatka
po tekhnike bezopasnosti dlia smazchikov oborudovaniia. Kiev,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 44 p.
(Lubrication and lubricants) (MLRA 8:11)

KALACHOV, V. P.

VOZNESENSKIY, Nikolay Aleksandrovich; KALACHOV, V.P., inzhener,
retsenzent; SOROKA, M.S., redaktor; ZALOGIN, N.S., redaktor;
LYKHOTA, M.A., tekhnicheskii redaktor.

[Safety instructions for grinders and adjusters of abrasive
machine tools] Pamiatka po tekhnike bezopasnosti dlia rabochikh-
shlifovshchikov i naladchikov stankov s abrasivnym instrumentom.
Kiev, Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1955. 52 p.
(Grinding and polishing) (MLBA 8:11)

YUGOSLAVIA

KALACIC, Dr I. [affiliation not given].

"The Fifth Congress on Allergies in Basle 8-11 Sept 1962."

Zagreb, Lijecnicki Vjesnik, Vol 85, No 4, April 1963, pp 446-448.

Abstract: The major topics of reports at the congress included the role of heredity in allergies, allergy reactions in the blood vessels, pollinosis in Europe, new methods of specific desensibilization, and fixated antibodies.

No references.

1/1

R. A. Kaladze, M. M.
KALADZE, R.A.

Method for measuring skin temperature. *Fiziol.zhur.* 43 no.6:588-589
Je '57. (MIRA 10:12)

1. Kafedra nervnykh bolezney Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(THERMOMETRY, MEDICAL)

KALADZE, R. A. Cand Med Sci -- (diss) "On disorders in thermoregulation in cases of lesion of the diencephalic region." Mos, 1958. 14 pp (Min of Health USSR. Central Inst for the Advanced Training of Physicians), 200 copies (KL, 36-58, 115)

-69-

KAIADZE, R.A.

Trigger mechanism of the sweating reaction. Fiziol. zhur. 45 no.5:
536-540 My '59. (MIRA 12:7)

1. Kafedra nervnykh bolezney Tsentral'nogo instituta usovershenst-
vovaniya vrachey, Moskva.
(SWEATING, physiol.
trigger mechanism (Rus))

VANAGAS, V.V.; KALADE, Yu.A. [Kalade, J.]; SHUGUROV, V.K.

The problem of interaction between nucleons. Liet ak darbai B no.3:
15-20 '60. (EEAI 10:3)

1. Vilnyuskiy gosudarstvennyy universitet im. V.Kapsukasa i
Institut fiziki i matematiki Akademii nauk Litovskoy SSR
(Nucleons) (Mesons) (Deuterons)

24,6300

S/058/62/000/007/011/068
A061/A101

AUTHORS: Kalade, Yu. A., Shugurov, V. K.

TITLE: Spin-orbital nuclear interaction

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 35, abstract 7A310
("Tr. AN LitSSR", 1961, v. B, 4(27), 35 - 44; Lith. summary)

TEXT: It has been attempted to explain the occurrence of a strong spin-orbital interaction in phenomenological nuclear potentials by proceeding from the assumption of a non-Euclidean space near nucleons. It has been found possible to select a metric which, at a distance of > 1 fermi, practically coincides with the Euclidean, such that, for low energies, calculations can be performed with the usual metric. The potential and metric tensor parameters are determined from the experimental deuteron characteristics. ✓B

[Abstracter's note: Complete translation]

Card 1/1

S/236/63/000/001/002/015
D251/D308

AUTHORS: Kalade, Yu. A., Shugurov, V. K. and Yanavichyus, A. I.

TITLE: Elimination of the motion of the center of mass in a system of identical particles

SOURCE: Akademiya nauk Litovskoy SSR. Trudy. Seriya B, no. 1, 1963, 13-20

TEXT: The authors consider a means of eliminating the non-single valuedness and the consequent false states which arise in the determination of the energy of the states of a system of identical particles. A method is given for constructing the wave function of the relative motion in a system of N such particles, the mass of each of which is taken to be unity. By means of a non-singular transformation it is possible to eliminate the effect at the center of mass. Then, in operator form

$$\underline{M} = \underline{1}_C + \underline{M}_R, \quad \underline{M}_R = \underline{a}_N + \underline{M} (N - 1) \quad (3)$$

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Elimination of the ...

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$$\underline{M} (N - 1) = \sum_{i=1}^{N-1} (\underline{l}_i + \underline{s}_i), \quad \underline{l}_i = [\underline{r}_i \underline{p}_i] \quad (4)$$

where \underline{M} is the total moment of momentum, \underline{l}_c is the moment corresponding to the motion of the center of the mass, \underline{M}_R is the relative moment, and \underline{s}_i is the spin moment. The operator $\underline{M}(N - 1)$ does not act on the N-th particle, and hence it is possible to take any particle as the 'last' and to use a coordinate system

$$\underline{r}_i = \underline{r}_i' - \underline{r}_N', \quad i = 1, \dots, N - 1 \quad (10)$$

which gives the position of $n - 1$ particles in terms of the Nth, and is best suited to the problem. The wave function

Card 2/3

Elimination of the ...

S/236/63/000/001/002/015
D251/D308

$$\psi = A \left\{ \psi(x_1, x_2, \dots, x_{N-1}) \Gamma(\sigma_N \tau_N) + \right. \\ \left. + (-1)^{N-1} \psi(x_N, x_1, \dots, x_{N-2}) \Gamma(\sigma_{N-1} \tau_{N-1}) + \dots \right\} \quad (6)$$

is constructed using Clebsh-Gordon coefficients and genealogy coefficients. The calculation of the matrix elements is discussed, and a worked example is given. There is 1 table.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk Litovskoy SSR (Institute of Physics and Mathematics of the AS Lithuanian SSR); Vil'nyusskiy gosudarstvennyi universitet im. V. Kapsukas (Vil'nyus State University im. V. Kapsukas)

SUBMITTED: July 7, 1962

Card 3/3

KALADE, Yu. A.; SHUGUROV, V. K.

"Calculation of Form Factors of He³ and He⁴."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb '64.

v Vil'nyus, State Univ.

L 11967-66 EWT(m) DIAAP

ACC NR: AP6001149

SOURCE CODE: UR/0367/65/002/003/0436/0440

AUTHOR: ^{44,55} Kalade, Yu. A.; ^{44,55} Pipirayte, P. P.; ^{44,55} Shugurov, V. K.

51
B

ORG: ^{44,55} Vilnius State University (Vil'nyusskly gosudarstvennyy universitet)

TITLE: Theory of electromagnetic form factors of a three-nucleon system

19, 44,55

SOURCE: Yadernaya fizika, v. 2, no. 3, 1965, 436-440

TOPIC TAGS: wave function, tritium, helium, nucleon

ABSTRACT: By using a wave function describing the motion of particles relative to the center of mass of a three-nucleon system, the authors calculated the energy of the ground state. The parameter of the radial part of the wave function is found from the energy minimum, and the function obtained is used to calculate the electro-magnetic form factors. In Fig. 1, curve 1 (case a) represents the form factor of the electric charge of the triton; curve 2, that of He³ when the ratio of parameters $\mu/k = 1.4$; curves 3 and 4 represent the corresponding experimental data. In case b, the magnetic form factors are shown. Agreement with the experiment is considered satisfactory. Orig. art. has: 1 figure and 11 formulas.

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ACC NR: AP6001149



Fig. 1. Electric (a) and magnetic (b) form factors for H^3 (curve 1) and He^3 (curve 2); curves 3, 4 show the corresponding experimental data by H. Collard, R. Hofstadter et al. (Phys. Rev. Lett. 11, 132, 1963). The quantity q is measured in units of f^{-1} .

SUB CODE: 20/ SUBM DATE: 20Jan65/ ORIG REF: 006/ OTH REF: 007

beh
Card 2/2

CHAYLAKHYAN, M.Kh.; MEGRABYAN, A.A.; KARAPETYAN, N.A.; KALADZHYAN, N.L.

Effect of growth promoting substances on tubercle formation
and the growth of alfalfa plants. Dokl. AN Arm. SSR 36 no.3:
189-192 '63. (MIRA 16:10)

1. Institut mikrobiologii AN Armyanskoy SSR.

CHAYLAKHYAN, M.Kh.; MEGRABYAN, A.A.; KARAPETYAN, N.A.; KALADZHYAN, H.I.

Growth promoting substances in secretions of nodule-forming
bacteria. Dokl. AN Arm. SSR 40 no.5:307-314 '65.

(MIRA 18:7)

1. Institut mikrobiologii AN ArmSSR. 2. Chlen-korrespondent
AN ArmSSR (for Chaylakhyan). Submitted September 15, 1964.

KALAFATA, D. D.

USSR/Engineering
Turbines
Thermoelectric Stations

Nov 48

"Session on High-Pressure Turbines" 1 p

"Elek Stants" No 11

Prof M. I. Grinberg, Leningrad Mach Factory imeni Stalin, summed up the work of a high-pressure steam turbine produced by the factory that develops 100,000 kw at 90-atm pressure, 480° C, 3000 rpm. This is the only turbine with these parameters in the world. D. D. Kalafata, Moscow Power Eng Inst imeni Molotov, submitted a report, "Theory and Design of Regenerative Cycles for Thermoelectric Stations."

PA 54/49T6Q

KALAFATI, D.D., dotsent, kandidat tekhnicheskikh nauk.

Principles of the theory of regenerative cycles of high-pressure steam power installations. Trudy MBI no.11:40-69 '53. (MLRA 7:11)
(Steam power plants)

Kalafati, D. D.

✓ 3182. Kalafati, D. D., The region of water and melting ice on the S-T diagram (in Russian), *Zh. tekhn. fiz.* 24, 2, 184-192, Feb. 1954.

62 Author claims that the general error in constructing an S-T diagram for water arises from the fact that it is considered a single phase system by various investigators, whereas it is actually a two-phase system.

The entropy of water at 0 C increases with pressure and has a maximum positive value at 160 atm. With pressures exceeding 160 atm, the entropy decreases and becomes zero at about 300 atm. With pressures above 300 atm, entropy assumes negative values. This is in disagreement with values given in thermodynamic tables for properties of water at 0 C. The existing tables show entropy increase at 300 atm.

It is erroneous, according to author, to present water isobar on S-T diagram as an equidistant logarithmic curve, or crossing at 4 C on the boundary curve, or beginning at a point of 4 C on the T axis.

W. Green, USA

KALAFATI, D.D. kandidat tekhnicheskikh nauk.

Basic theory of regenerative cycles of steam-turbine installation
with intermediate superheating, of heating and power plants and
of the binary type. Trudy MEI no.25:69-92 '55. (MLRA 9:7)
(Steam power plants)

KALAFATI, D.D.

Conceptual influence of M.V.Lomonosov's works on the creative
activity of I.I.Polzunov. Vop.ist.est. i tekhn. no.2:238-244 '56.
(MIRA 10:1)

(Lomonosov, Mikhail Vasil'evich, 1711-1765)
(Polzunov, Ivan Ivanovich, 1729-1766)

Submitted by D. D.

AID P - 4227

Subject : USSR/Heat and Power Engineering

Card 1/1 Pub. 110 a - 8/15

Author : Kalafati, D. D., Kand. Tech. Sci.

Title : Thermodynamical analysis of cycles in steam turbines with intermediate overheating.

Periodical : Teploenergetika, 3, 39-47, Mr 1956

Abstract : The comparison of the efficiency of steam turbine units with intermediate regeneration at different initial steam characteristics is made. A theoretical analysis of their efficiency is given. The importance of the cycle characteristics in the regenerating process is discussed. A formula for the computation of the most efficient temperature (thermodynamically) for initial intermediary overheating is presented. Nine diagrams.

Institution : Moscow Engineering Institute

Submitted : No date

KALAFATI, D.D.

PHASE I BOOK EXPLOITATION

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Moscow. Energeticheskii institut

Istoriya energeticheskoy tekhniki SSSR v trekh tomakh. t. 1: Teplotekhnika
(History of Power Engineering in the USSR in Three Volumes.
v. 1: Heat Engineering) Moscow, Gosenergoizdat, 1957. 479 p. 5,000 copies
printed.

Ed.-Compiler: Konfederatov, I.Ya., Doctor of Technical Sciences; Authors:
Badyl'kes, I.S., Doctor of Technical Sciences; Belizkiy, S.Ya., Candidate
of Technical Sciences; Gimmel'farb, M.L., Candidate of Technical Sciences;
Kalafati, D.D., Candidate of Technical Sciences; Kertselli, L.I., Professor,
Kovalev, A.P., Doctor of Technical Sciences; Konfederatov, I.Ya., Doctor of
Technical Sciences; Lavrov, V.N., Doctor of Technical Sciences; Lebedev, P.D.,
Doctor of Technical Sciences; Lukinskiy, V.V., Doctor of Technical Sciences
(deceased); Petukhov, B.S., Doctor of Technical Sciences; Satanovskiy, A.Ye.,
Doctor of Technical Sciences, Semenenko, N.A., Doctor of Technical Sciences;
Smel'nitskiy, S.G., Candidate of Technical Sciences; Sokolov, Ye.Ya., Doctor
of Technical Sciences; Chistyakov, S.F., Candidate of Technical Sciences, and
Shcheglyayev, A.V., Corresponding Member, USSR Academy of Sciences; Editorial
Board of set: Bel'kind, L.D., Doctor of Technical Sciences; Glazunov, Doctor

Card 1/16
3

History of Power Engineering in the USSR (Cont.)

706

status before 1917 is described. In the main part of the volume, Ch. 6 to 16, the development of various branches of the Soviet heat engineering is presented. The theoretical fundamentals of heat engineering, of manufacturing boilers, turbine installations of heat power plants, district heating, heat control, automation of thermal processes, and cooling techniques are covered extensively. Each chapter is supplemented with a bibliography. The book is illustrated with photographs, charts and diagrams, worked out by the authors of the respective chapters. At the end of the book there is a chronological list of significant events in the development of heat engineering.

TABLE OF CONTENTS:

Introduction

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PART I. THE INITIAL PERIOD OF DEVELOPMENT
OF HEAT ENGINEERINGCh. I. Origin and Initial Development of Heat Engineering to the
Middle of the 19th Century

Card 3/16

3

AUTHOR: Kalafati, D.D.

89 -1-14/18

TITLE: Analysis of Optimum Conditions for the Establishment of Thermodynamic Cycles in Atomic Power Plants (Analiz optimal'nykh usloviy shchestyleniya termodinamicheskikh tsiklov atomnykh elektrostantsiy)

PERIODICAL: Physics and Thermotechniques of Reactors (Fizika i teplo tekhnika reaktorov), Supplement Nr 1 to Atomnaya energiya, 1958 (USSR)

ABSTRACT: One of the most important tasks in the construction of atomic electric power plants is the best possible selection of the initial parameters of steam for the steam turbines and the estimation of the dependences of the steam parameters on the various reactor factors. A theoretical computation for this purpose is carried out and two curves are obtained as the final result. One of the curves represents the dependence of the thermal efficiency of the reactor, of the thermal degree of efficiency, of the electric power, and of the change of current expenses on the change of the average heat transfer temperature. The second curve represent the optimum average temperature of the operation medium in the heat transfer

Card 1/2

**Analysis of Optimum Conditions for the Establishment of
Thermodynamic Cycles in Atomic Power Plants**

89 -1-14/18

cycle in dependence on the utmost permissible temperature of the fuel elements. There are 3 figures and 9 references, 4 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2 1. Atomic power plants-Heat transfer 2. Reactors-Heat transfer

KALAFATI, D. D.

AUTHOR: Kalafati, D.D. (Cand.Tech.Sci.)

96-3-16/26

TITLE: The Optimum Temperature for the Regenerative Reheating of Feed Water for an Entire Power Station (Optimal'naya obshchestantsionnaya regenerativnogo podogrev pital'noy vody)

PERIODICAL: Teploenergetika, 1958. 5 No.3. pp. 66-67 (USSR)

ABSTRACT: The optimum regenerative feed water temperature is usually determined from the condition of maximum thermal efficiency of the steam turbine cycle concerned and it is then commonly reduced somewhat for economic reasons. However, it follows from the general expression for the efficiency of a power station that the maximum thermal efficiency of the cycle of a turbine corresponds to the maximum efficiency of the station as a whole only if all the other efficiencies are not affected by change in the temperature of regenerative heating. However, the boiler efficiency usually depends on the feed water temperature. An analysis is made of a theoretical regenerative heating system and formula 10 is derived for the optimum temperature for the station as a whole. This value is appreciably less than that which corresponds to the maximum thermal efficiency of the cycle considered alone. The expression that is obtained differs from the usual formula that does not make allowance for boiler efficiency only by the presence of a factor δ which characterises the influence of the change in boiler efficiency on the regenerative heating temperature. An expression is given for δ . In order to

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96-3-16/28

The Optimum Temperature for the Regenerative Reheating of Feed Water for an Entire Power Station

calculate δ it is necessary to know the relationship between the boiler efficiency and the feed water temperature. This question has been studied by T.Kh. Margulova, and the appropriate data for a medium pressure boiler are tabulated. A numerical example of calculation of the best feeding water temperature is given. Graphs of the effect of change in the boiler efficiency on the efficiency of the station as a whole and on the optimum temperature of regenerative heating of the feed water are given in Fig.1. The article then considers the effects of using different arrangements of heater and different conditions in the heaters. The influence of turbine tapping points is important. Fig.2. gives graphs of the optimum feed water temperature as function of the thermal efficiency for various numbers of turbine tappings. This figure can also be used for graphical determination of the optimum whole station temperature. A worked example is given to explain the procedure. The effect of reheat on the best feed water temperature is considered. It is shown that for each variant of boiler set arrangement the condition of maximum thermal efficiency of the station as a whole uniquely determines the best temperatures of the outgoing flue gas and of regenerative feed water heating, and technical-economic calculations are necessary only when selecting different variants of boiler arrangement with greater or less development of heat exchange surfaces. There are 4 figures, 7 literature references (Russian)

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